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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/516,078	03/01/2000	Zsolt Istvan Hertelendy, Pharm.D.,Ph.D	45061-8	3549

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PORTNER, VIRGINIA ALLEN

ART UNIT	PAPER NUMBER
1645	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.	Applicant(s)
09/516,078	Hertelendy et al
Examiner	**Art Unit**
Portner	1645

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *Oct 11, 2001*.

2a) ☒ This action is **FINAL.** 2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under ***Ex parte Quayle***, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-13 and 17-20* is/are pending in the application.

4a) Of the above, claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-13 and 17-20* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____
4) ☐ Interview Summary (PTO-413) Paper No(s). _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Claims 14-16 have been canceled.

Claims 1-4, 12-13, 17-18 have been amended.

Claims 1-13, 17-20 are pending and under consideration.

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Priority

2. Priority claimed under 35 U.S.C. 120 based upon a previously filed copending application by specific reference in the first sentence of the specification following the title, as a separate paragraph to the earlier filed application, has been made in the instant application and is acknowledged.

Rejections Withdrawn

3. Claims 1-20 rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-28 of U.S. Patent No. 6,099,853, in light of the effective terminal disclaimer filed in the instant Application.

4. Claims 1-20 rejected under 35 U.S.C. 112, second paragraph, for reciting Markush Groups has been obviated by amending the claims to remove the phrase "selected from the group consisting of".

5. Claim 13 rejected under 35 U.S.C. 112, second paragraph for reciting the phrase "genetically engineered constituents of known pathogens selected from the group consisting of urogenital

pathogens, anorectally pathogens and combinations thereof;" in light of the claim not reciting this phrase.

6. Claim 18 rejected under 35 U.S.C. 112, second paragraph for reciting the phrase that defines the polyethylene glycol suppository base to comprise polyethylene glycol and polysorbate, in light of the amendment of claim 18 to clarify the components.

7. Claims 14-15 rejected under 35 U.S.C. 102(b) as being anticipated by Grinstaff et al (US Pat. 5,639,473) , in light of the cancellation of the claims.

8. Claims 14-15 rejected under 35 U.S.C. 102(b) as being anticipated by Lockett et al (US Pat. 5,854,224) , in light of the cancellation of the claims.

9. Claims 14-16 rejected under 35 U.S.C. 102(b) as being anticipated by Beck et al (US Pat. 4,756,907), in light of the cancellation of the claims.

10. Claims 14-15 rejected under 35 U.S.C. 102(b) as being anticipated by Lee (US Pat. 5,733,540) , in light of the cancellation of the claims.

Rejections Maintained

11. Claims 1-13,17-20 rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for formulation of suppository based compositions that comprises antigens and adjuvants for stimulation of an immune response in humans or animals, does not reasonably provide enablement for any and all antigens to be used in a suppository based delivery system for the stimulation of a protective immune response that prevents infection . The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims.

12. Claims 1-3, 13 rejected under 35 U.S.C. 112, second paragraph for reciting the phrase "other antigenic determinants or combinations thereof", in light of the fact that the "other antigenic determinants not having been defined or clarified.

13. Claim 4 rejected under 35 U.S.C. 112, second paragraph for reciting the phrase "is generated from known genetic information", in light of the genetic material that is vaccine information not having been clearly defined in the claims.

14. Claims 1-4, 6, 10-11,17 rejected under 35 U.S.C. 102(a) as being anticipated by Uehling et al (June 1997, different inventive entity), for reasons of record in paper number 3, paragraph number 9.

15. Claims 1-6, 17 rejected under 35 U.S.C. 103(a) as being unpatentable over . Beck et al (US Pat. 4,756,907) in view of Singh (US Pat. 5,858,371),for reasons of record in paper number 3, paragraph number 15.

16. Claims 17 and 19 rejected under 35 U.S.C. 103(a) as being unpatentable over . Beck et al (US Pat. 4,756,907) in view of Azria (US Pat. 5,858,371), for reasons of record in paper number 3, paragraph number 16.

17. Claim 20 rejected under 35 U.S.C. 103(a) as being unpatentable over Beck et al (US Pat. 4,756,907) in view of Mizuno et al (US Pat. 4,462,984)for reasons of record in paper number 3, paragraph number 17.

Response to Arguments

18. Applicant's arguments filed October 11, 2001 have been fully considered but they are not persuasive.

19. The rejection of claims 1-13, 17-20 under 35 U.S.C. 112, first paragraph (scope) is traversed on the grounds that "applicant believes the specification provides sufficient enablement for the claims as presented", asserts that the specification provides enablement for any and all antigens to be used in the suppository base delivery system, states "[T]he specification reasonably provides enablement for certain adjuvants to be used (page 13, line 14), argues that the specification teaches the formulation of the claimed compositions, in this application and in the issued application and provides substantive evidence that any antigen, in any amount would be capable of inducing protective immunity.

20. It is the position of the examiner that the rejection was not a total lack of enablement for induction of an immune response, but a scope of enablement rejection over the induction of a

protective immune response using any antigen and all antigens to induce an immune response that prevents or treats any and all types of disease. At no time did the examiner question whether the instant specification taught how to formulate a suppository, but made of record arguments with respect to the unpredictability of single antigens to induce a protective vaccine immune response.

The instant specification also is lacking in written descriptive support for what known nucleic acids would be useful as vaccines, and thus have not provided enablement for this scope of the claims. Known intron nucleic acid sequences would not predictably induce a protective immune response; all nucleic acid sequences and all antigens are not vaccine antigens. Adequate written description requires more than a mere statement that it is part of the invention and a reference to a potential method of isolating the nucleic acid molecule. The nucleic acid that encodes catalase itself is required. See *Fiers v. Revel*, 25 USPQ 2d 1601 at 1606 (CAFC 1993) and *Amgen Inc. V. Chugai Pharmaceutical Co. Lts.*, 18 USPQ2d 1016. *Vas-Cath Inc. V. Mahurkar*, 19 USPQ2d 1111, clearly states that "applicant must convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession *of the invention.* The invention is, for purposes of the 'written description' inquiry, *whatever is now claimed.*" (See page 1117). The specification does not "clearly allow persons of [redacted] skill in the art to recognize that [he or she] invented what is claimed." (*See Vas-Cath* at page 1116). Applicant is reminded that *Vas-Cath* makes clear that the written description provision of 35 U.S.C. 112 is severable from its enablement provision (see page 115).

21. An additional traversal states "[A]pplicant is not attempting to claim that any antigen, in any amount, can produce the intended result."

22. It is the position of the examiner that the claimed invention is directed to any antigen, either whole or fractionated, for the intended result of functioning as a vaccine; Applicant's arguments are not commensurate in scope with the instantly claimed invention.

23. Applicant asserts that [T]he '853 patent, by way of example and not limitation, provides evidence that the antigens administered in certain amounts are capable of preventing pathogenic infections in humans and animals (column 8,line 5).

24. It is position of the examiner that the allowed claims are directed to compositions that comprise 8-14 whole inactivated bacteria, and not sub-fragments of viruses (such as HIV), pathogens or bacteria, nor are the claims directed to nucleic acid compositions wherein the nucleic acid fragment must be incorporated into the host animal cells, translated and expressed extracellularly at levels such that a protective immune response would be stimulated. The scope of the instantly claimed invention is far broader and is not limited to the scope of the allowed claims, for which evidence is provided in the specification. A composition of 8-14 whole bacteria comprise numerous cell surface immunogen antigens that will induce a protective immune response.

The instantly claimed compositions need not comprise any specific antigens (toxin, enzyme, adhesions, virulence associated antigens), but are directed to any fractioned portion of

cellular constituents, native, mutated, synthetic, cloned or recombinantly expressed of any microbial pathogen. Vaccines for all pathogens are not known. All antigens are not vaccine antigens, nor are they immunogens (epitopes are often too small (less than 1000 Daltons) which stimulate an immune response; epitopes are immunoreactive with antibodies stimulated by the whole antigen in which the epitope naturally exists.

The evidence pointed out by Applicant does not provide enablement for the full scope of the claims. The scope of enablement rejection is maintained for reasons of record.

25. The rejection of claims 1-3, 13-14, and 16 under 35 U.S.C. 112, second paragraph for reciting the phrase "other antigenic determinants or combinations thereof" is addressed by stating "other antigenic determinants" refers to that which shares commonality in function with nucleic acids, proteins and lipids.

26. It is the position of the examiner that no common structure and function is held in common between nucleic acids, proteins and lipids. Each of these molecules, they may share a single shared element, do not share an overall shared common structure and function, and are art recognized distinct molecules. As there is no clear definition of what the other antigenic determinants are, the claimed invention is unclear for reasons of record.

27. The rejection of claim 4 under 35 U.S.C. 112, second paragraph for reciting the phrase "is generated from known genetic information" is asserted to be "[T]he "genetic information" is that which is specific to a pathogen.

28. It is the position of the examiner that the instant specification does not provide a clear definition of genetic information that would serve as a vaccine and is specific to a pathogen. The claimed invention is not distinctly claimed, in light of all genetic information is not considered to be vaccine antigens.

29. The rejection of claims 1-4, 6, 10-11, 17 under 35 U.S.C. 102(a) as being anticipated by Uehling et al (June 1997) is traversed on the grounds that the disclosure of Uehling et al (June 1997) is not a proper reference.

30. It is the position of the examiner that Applicant's reference to an affidavit or declaration filed in the parent application does not provide the needed information in the instant Application. Affidavits or declarations, such as those submitted under a Declaration filed under 37 CFR 1.131 and 37 CFR 1.132, during the prosecution of the parent application do not automatically become a part of this application. Where it is desired to rely on an earlier filed affidavit or declaration, the applicant should make the remarks of record in the later application and include a copy of the original affidavit or declaration filed in the parent application.

It was noted by the examiner that the four inventors set forth in the instant Application are: Hertelendy, Weiner, Howell and Thomas. The authors of the applied reference do not share

a common inventor: Uehling, Hopkins, Balish, Xing and Heisey. An effective Declaration swearing behind the applied reference to Uehling et al (1997) under 102(a), has not been submitted; the rejection of the claims is maintained for reasons of record, and was a proper reference applied to the claims. This rejection could be obviated through submission of an effective Declaration under 37 CFR 1.131.

31. The rejection of claims 1-6, 17 under 35 U.S.C. 103(a) as being unpatentable over Beck et al (US Pat. 4,756,907) in view of Singh (US Pat. 5,858,371) is traversed on the grounds that the claims have been amended to recite the phrase "anorectal or urogenital orifice" which differs from the method of Beck et al which is directed to contact across the cervix.

32. It is the position of the examiner, that Beck et al discloses a urogenital orifice, specifically the vagina for deposition of the suppository. The term "urogenital" pertains to cites associated with urination, and genital reproduction (see Stedman's medical dictionary). Clearly the vagina of a woman is a urogenital orifice, which is taught for stimulation of an immune response at a mucosal site of the body. The disclosed species of Beck is clearly encompassed by the genus recited in the claims. Applicant's arguments are not commensurate in scope with the instantly claimed invention which includes the cite of administration of Beck et al.

33. The rejection of claims 17 and 19 under 35 U.S.C. 103(a) as being unpatentable over Beck et al (US Pat. 4,756,907) in view of Azria (US Pat. 5,858,371) is traversed on the grounds that Beck et al does not disclose a urogenital cite for administration.

34. It is the position of the examiner that the vagina of a woman (see Beck et al col. 17, lines 50), is a urogenital cite encompassed by the claims. The amendment of the claims does not remove Beck et al as a reference. There is motivation to ~~combination~~ combine the teachings of Beck in view of Azria because Azria et al teaches that suppositories that comprise combinations of polyethylene glycol and polysorbate have application in the delivery of pharmaceutical compositions to body orifices and provide means for application of suppositories that are well tolerated by man (see col. 3, lines 45-46).

35. The rejection of claims 14 and 20 under 35 U.S.C. 103(a) as being unpatentable over Beck et al (US Pat. 4,756,907) in view of Mizuno et al (US Pat. 4,462,984) is traversed on the grounds that Beck et al does not disclose a urogenital cite for administration.

36. It is the position of the examiner that the vagina of a woman (see Beck et al col. 17, lines 50), is a urogenital cite encompassed by the claims. The amendment of the claims does not remove Beck et al as a reference. There is motivation to ~~combination~~ combine the teachings of Beck in view of Mizuno et al (US Pat. 4,462,984) because Mizuno et al show a suppository base compositions that comprises about 80% by weight of polyethylene glycol ~~have~~ has excellent moldability and storage stability and the person of ordinary skill in the art would have been motivated to produce

suppository based vaccine delivery systems that are stabile and readily moldable into the desired shape to aid in insertion of the suppository into an animal or human.

Conclusion

37. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

38. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ginny Portner whose telephone number is (703)308-7543. The examiner can normally be reached on Monday through Friday from 7:30 AM to 5:00 PM except for the first Friday of each two week period.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynette Smith, can be reached on (703) 308-3909. The fax phone number for this group is (703) 308-4242.

The Group and/or Art Unit location of your application in the PTO will be Group Art Unit 1645. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to this Art Unit.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0196.

Vgp
October 4, 2002

LYNETTE R. F. SMITH
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